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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/828,929	04/21/2004	Chiranjit Deka	6320P0080US	5105
757	7590	11/03/2005	EXAMINER	
BRINKS HOFER GILSON & LIONE P.O. BOX 10395 CHICAGO, IL 60610			FASTOVSKY, LEONID M	
			ART UNIT	PAPER NUMBER
			3742	
DATE MAILED: 11/03/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/828,929

Applicant(s)

DEKA ET AL.

Examiner

Leonid M. Fastovsky

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 15-23, 37-46 and 48-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 15-23, 37-46 and 48-55 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>20050817</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's election without traverse of claims 1-12, 15-23, 37-46 and 48-55 in the reply filed on 8/17/05 is acknowledged.

Double Patenting

2. Applicant is advised that should claim 1 be found allowable, claim 54 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Specification

3. The abstract of the disclosure is objected to because it contains extraneous words such as "comprises". Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 3-7, 8-9, 23 and 53-55 are rejected under 35 U.S.C. 102(b) as being anticipated by Karger et al (EP0318273).

Karger discloses an apparatus 26 for controlling the temperature of one or more substances passing through one microfluidics channel 12, the apparatus comprising a

heating unit 30 having generally parallel and coplanar surface and exposed to ambient temperature, a thermally conductive medium 28, the channel 12 disposed in the medium 28, a heat dissipating unit 32 comprising a Peltier cooler (col. 9, lines 40-65), the heat dissipating unit comprises a heat sink 34 with fins 70 which is inherently a metal layer for being the heat sink and exposed to the ambient temperature for cooling (col. 11, lines 45-65).

6. Claims 37 and 39-44 are rejected under 35 U.S.C. 102(b) as being anticipated by Krager.

Karger discloses an apparatus 10 for executing a capillary electrophoresis process (col. 5, lines 40-65) comprising a first electrode unit 18 adapted to receive one or more substances for the analysis, a second electrode unit 20, a plurality of capillaries within a capillary tube 12, a detection chamber 13 with a detection-sensor device 22,24, a temperature control unit comprising a heating unit 30 having generally parallel and coplanar surfaces and exposed to ambient temperature, a thermally conductive medium 28, the channel 12 disposed in the medium 28, a thermoelectric and a heat dissipating unit 32 comprising a Peltier cooler (col. 9, lines 40-65), the heat dissipating unit comprises a heat sink 34 with fins 70 which is inherently metal for being the heat sink (col. 11, lines 45-65), and the thermoelectric unit 32 is used as a thermal controller in response to temperature sensors-thermocouples 50 (col. 10, lines 21-55).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krager in view of Oldenburg (6,640,891).

Krager discloses substantially the claimed invention, but does not disclose a rubber material. Oldenburg discloses a thermal cycling device comprising a lid 10 with a copper layer 14 that transmits heat and includes an inherently thermally conductive silicon rubber 16. It would have been obvious to one having ordinary skill in the art to modify Krager's invention to include a rubber material as taught by Oldenburg in order to better control the temperature of the apparatus.

9. Claims 10 and 45 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krager in view of Chow et al (5,965,410).

Krager discloses substantially the claimed invention including the metal plate- heating unit 30, but does not disclose a thin-film heater. Chow discloses a method for monitoring fluid in microfluidic system comprising a thin-film heater (21, col. 22, lines 1-19). It would have been obvious to one having ordinary skill in the art to modify Krager's invention to include a thin-film heater as taught by Chow in order provide a compact design for the apparatus.

10. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krager in view of Kaltenbach et al (5,641,400).

Krager discloses substantially the claimed invention, but is silent regarding separating parts without damage. Kaltebach discloses a fluid analysis system comprising temperature control devices 146, heat exchange modules 148 and substrate 142 having a thermally conductive paste when assembled, therefore capable of being separated without damage. It would have been obvious to one having ordinary skill in the art to modify Krager's invention as taught by Kaltenbach to assure that the thermally conductive medium 28 and the heating unit 30 are separated without damage in order to reduce production costs.

11. Claims 12, 15 and 48-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krager in view of Kaltenbach and further in view of Moles (6,406,605).

Krager in view of Kaltenbach discloses substantially the claimed invention including separating of the parts without damage, but does not disclose using mechanical fasteners or adhesive. Moles discloses a microfluidic device 10 having an electrostatic membrane 24 bonded within the device by adhesive or assembled in the device by fasteners (col. 3, lines 20-65). It would have been obvious to one having ordinary skill in the art to modify the invention of Karger in view Kaltenbach to use adhesive or fasteners as taught by Moles as an obvious functional equivalent.

12. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krager in view of Chow and further in view of Kaltenbach.

Krager in view of Chow discloses substantially the claimed invention, but is silent regarding separating parts without damage. Kaltebach discloses a fluid analysis system comprising temperature control devices 146, heat exchange modules 148 and substrate 142 having a thermally conductive paste when assembled, therefore capable of being separated without damage. It would have been obvious to one having ordinary skill in the art to modify the invention of Krager in view of Chow as taught by Kaltenbach to assure that the thermally conductive medium 28 and the heating unit 30 are separated without damage in order to reduce production costs.

13. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krager in view of Kaltenbach and further in view of Oldenburg.

Krager in view of Kaltenbach discloses substantially the claimed invention, but does not disclose a silicone gel material. Oldenburg discloses a thermal cycling device comprising a lid 10 with a copper layer 14 that transmits heat and includes an inherently thermally conductive silicon rubber 16. It would have been obvious to one having ordinary skill in the art to modify the invention of Krager in view of Kaltenbach to include a silicone material as taught by Oldenburg in order to better control the temperature of the apparatus.

14. Claims 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krager in view of Kaltenbach and further in view of Oldenburg.

Krager in view of Kaltenbach discloses substantially the claimed invention, but does not disclose a silicone gel material. Oldenburg discloses a thermal cycling device comprising a lid 10 with a copper layer 14 that transmits heat and includes an inherently

thermally conductive silicon rubber 16. It would have been obvious to one having ordinary skill in the art to modify the invention of Krager in view of Kaltenbach to include a silicone material as taught by Oldenburg in order to better control the temperature of the apparatus.

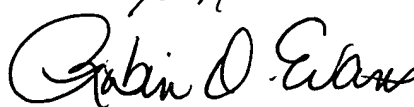
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid M. Fastovsky whose telephone number is 571-272-4778. The examiner can normally be reached on M-Th. 8.00 am -6.00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

lmf


Leonid M Fastovsky
Examiner
Art Unit 3742

10/24/05

ROBIN O. EVANS
PRIMARY EXAMINER
10/31/05